Customer Care Solutions
RH-23 Series Transceivers

General Information

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RH-23 Product Selection

The **RH-23** is a Dual Band transceiver unit designed for the EGSM900, GSM1800 (EDGE) networks. It is a GSM900 phase 2 power class 4 transceiver (2W) and a GSM1800 power class 1 (1W) transceiver. It is also an EDGE900 power class E2 (0.5W/27dBm) and an EDGE1800 power class E2 (0.4W/26dBm) transceiver.

RH-23 Product and modules

Name	Type code	Material code/ module type	Module code
Basic transceiver	RH-23	0509448	
Radio module	1AQ		0202075
UI board	1BF		0210012
Mechanics assembly parts			0263173
Software module (basic SW)			On Flash memory

Figure 1: RH-23 transceiver

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Accessories List

Batteries	Product code:
Battery BL-4C 780mAH Li-Ion	0670386
Chargers	**Product code:**
AC Travel Charger ACP-7E (EUR) 207-253 Vac	0675144
AC Travel Charger ACP-7U (US) 108-132 Vac	0675143
AC Travel Charger ACP-7C (China) 198-242 Vac	0675158
AC Travel Charger ACP-7X (UK) 207-253 Vac	0675145
AC Travel Charger ACP-7H (Hong Kong) 180-220 Vac	0675146
AC Travel Charger ACP-7A (AUS) 216-264 Vac	0675148
Performance Travel Charger ACP-8E (EUR) 90-264 Vac	0675195
Performance Travel Charger ACP-8K (Korea) 90-264 Vac	0675199
Performance Travel Charger ACP-8X (UK) 90-264 Vac	0675197
Performance Travel Charger ACP-8U (US) 90-264 Vac	0675196
Performance Travel Charger ACP-8C (China) 90-264 Vac	0675211
Performance Travel Charger ACP-8A (Australia) 90-264 Vac	0675214
Performance Travel Charger ACP-9E (EUR)	0675149
Performance Travel Charger ACP-9U (US)	0675151
Performance Travel Charger ACP-9X (UK)	0675150
Performance Travel Charger ACP-9A (AUS)	0675152
Performance Travel Charger ACP-9J (Japan)	0675153
Performance Travel Charger ACP-9UR (US)	0675159
Performance Travel Charger ACP-9UJ (Brazil)	0675169
Performance Travel Charger ACP-9C	0675204
Performance Travel Charger ACP-9UB	0675224
Performance Travel Charger ACP-9G (Brazil)	0675225
ACP-12E Travel Charger (EUR) 90-264 Vac	0675294
ACP-12X Travel Charger (UK) 90-264 Vac	0675296
ACP-12U Travel Charger (US) 90-264 Vac	0675303
ACP-12UB Travel Charger (Brazil) 90-264 Vac	0675203
ACP-12G Travel Charger (US) 90-264 Vac	0675295
ACP-12C Travel Charger (China) 90-264 Vac	0675297
ACP-12A Travel Charger (Australia) 90-264 Vac	0675300

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ACP-12AR Travel Charger (Argentina) 90-264 Vac	0675298
AC-1E Retractable Charger	0675349
AC-1X Retractable Charger	0675350
AC-1U (also Brazil and Japan) Retractable Charger	0675351
AC-1C Retractable Charger	0675353
AC-1A Retractable Charger	0675354
AC-1AR Retractable Charger	0675355
Audio and Car Enhancements	**Product code:**
HDB-4 Boom headset	0694094
LPS-4 Inductive Loopset	0630443
HDS-3 Stereo Headset	0694093
HS-10 Retractable Headset	0694126
AD-5B Wireless Audio Adapter	0694149
BHF-1 Headrest Handsfree (APAC only)	0694102
LCH-9 Mobile Charger	0675120
LCH-12 Mobile Charger	0675328
Style packs for covers, Imagewear and Imaging	**Product code:**
CC-182D Brown 1	0274845
CC-184D Brown 2	0274844
CC-183D Grey 1	0274846
CC-181D Grey 2	0274847
CC-179D Black 1	0274848
CC-180D Black 2	0274849
RX-3 Medallion 1	0630702
RX-4 Medallion 2	0274765
RX-11 Kaleidoscope	0274768
SU-4 Image Frame	0274728
SU-7 Image Frame	0274757
Inbox/Sales Package Enhancements	**Product code:**
CP-8 Wrist strap and soft pouch Brown	0720375
CP-8 Wrist strap and soft pouch Black	0720376
CP-8 Wrist strap and soft pouch Grey Blue	0720377
English label, white	0694156

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English label, black	
Data	**Product code:**
DKU-5 Connectivity Adapter Cable	0730235

Technical Specifications

General Specifications of Transceiver RH-23

Unit	Dimensions (mm) (L x W x T)	Weight (g)	Volume (cm^3)
Transceiver with BL-4C 780mAh Li-Ion battery pack	86 x 50 x 26	115	91

Table 1: Main RF characteristics

Parameter	Unit and value
Cellular system	EGSM900/GSM1800
RX Frequency range	EGSM900: 925... 960 MHz GSM1800: 1805...1880 MHz
TX Frequency range	EGSM900: 880... 915 MHz GSM1800: 1710...1785 MHz
Duplex spacing	EGSM900: 45 MHz GSM1800: 95 MHz
Channel spacing	200 kHz
Number of RF channels	EGSM900: 174 GSM1800: 374
Output Power	EGSM900: GSMK 5...33 dBm EGSM900: 8-PSK 5...27 dBm GSM1800: GSMK 0...30 dBm GSM1800: 8-PSK 0...26 dBm
Number of power levels GSMK	EGSM900: 15 GSM1800: 16
Number of power levels 8-PSK	EGSM900: 12 GSM1800: 14

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Battery endurance

Nokia measurements of the operational times in GSM 900/ 1800 are:

Talk time*	
Battery: BL-4C	up to 2 – 5 hours
Talk time variations:	
Integrated Handsfree (IHF) talk time**	up to 1 h 45 min – 3 h 45 min
Standby time*	
Battery: BL-4C	up to 150... 300 hours
Radio + HS-3	up to 28 hours
Radio + IHF	up to 13 hours

Variation in operating times may occur depending on SIM card, network and usage settings, usage style and environments. Talk time is increased by up to 30% if half rate is active and reduced by 5% if enhanced full rate is active.

**Note: Volume level 7 used in calculation. Calculated from talk times.

***Note: Volume level 7 used in calculation. Phone idle.

Note: Mini display screensaver decreases standby and talk times.

Environmental conditions

Environmental condition	Ambient temperature	Notes
Normal operation	-10 °C ... +55 °C	Specifications fulfilled
Reduced performance	+55 °C ... +65 °C	Operational only for short periods
Intermittent operation	-20 °C ... -10 °C and +65 °C ... +85 °C	Operation not guaranteed but an attempt to operate will not damage the phone
No operation	-40 °C ... -20 °C	Operation not possible but an attempt to operate will not damage the phone
No operation or storage	< -40 °C and > +85 °C	No storage; an operation attempt may cause permanent damage
Charging allowed	-25 °C ... +60 °C	
Long term storage conditions	0 °C ... +40 °C	

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Transceiver Features

Transceiver main HW parts / features include:

- GPRS
- EGPRS
- HSCSD
- Integrated Stereo FM radio
- TFT Colour Display with up to 65,536 colours
- Black and white mini display
- VGA camera
- Textile covers
- Series 40 UI style. Three soft keys with four way scroll
- Integrated IR link
- Internal vibra
- Integrated Hands Free (IHF) Speaker
- Pop-Port(TM) System Connector
- Plug-in SIM card below the SIM cover of the phone
- Back-mounted antenna (no connection for external antenna)

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Electrical Characteristics

Absolute Maximum Ratings

Parameter	Min.	Typical	Max.	Unit
Battery Voltage, Idle	-0.3		5.5	V
Battery Voltage, Call	-0.3		4.7	V
Charger Input Voltage	-0.3		16	V
Charging Current			850	mA

Supply Voltages

Parameter	Min.	Typical	Max.	Unit / Notes
Battery Voltage	3.1	3.7	4.2	V / SW cut-off 3.1 V

Current Consumption

Condition	Min.	Typical	Max.	Unit
Call (MoU) GSM 900 GSM1800 EDGE 900 EDGE1800		 267 209 209 157		mA
Idle (MoU)		1.5-4		mA
Power off			50	µA

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